CLAIMS

1. A water-based coal tar emulsion prepared from the blend comprising, based on the total weight of said emulsion

(a) from about 20% to about 60% by weight of coal tar;

(b) from about 30% to about 60% by weight of water;

(c) from about 3% to about 15% by weight of an acrylonitrile-butadiene copolymer powder; and

(d) from about 5% to about 30% by weight of clay.

2. The emulsion of claim 1 wherein the coal tar has an overall float test of from about 50 seconds to about 220 seconds.

3. The emulsion of claim 1 wherein the blend comprises from about 15 to about 40% by weight of the acrylonitrile-butadiene copolymer, based on the weight of the coal tar.

4. The emulsion of claim 1 wherein the acrylonitrile-butadiene copolymer powder comprises a mixture of a linear acrylonitrile-butadiene copolymer and a crosslinked acrylonitrile-butadiene copolymer.

5. The emulsion of claim 4 wherein the acrylonitrile-butadiene copolymer mixture comprises from about 60% to about 85% of a linear acrylonitrile-butadiene copolymer and from about 15% to about 40% by weight of a crosslinked acrylonitrile-butadiene copolymer.

6. The emulsion of claim 1 wherein the acrylonitrile-butadiene copolymer comprises from about 20% to about 45% of acrylonitrile.

7. The emulsion of claim 1 wherein the acrylonitrile-butadiene copolymer comprises from about 25 to about 35% by weight of acrylonitrile.

8. The emulsion of claim 1 wherein the acrylonitrile-butadiene copolymer contains a partitioning agent.

9. The emulsion of claim 1 wherein the clay is a ball clay.

10. The emulsion of claim 1 also comprising from about 0.1 to about 2% by weight of an antioxidant.

11. The emulsion of claim 1 also comprising from about 0.1 to about 10% by weight of a plasticizer.

12. The emulsion of claim 1 also comprising from about 0.1 to about 5% by weight of an organic hydroxy or polyhydroxy compound.

13. The emulsion of claim 1 wherein a rubber latex is added to the emulsion after the blend is prepared.

14. The emulsion of claim 13 wherein the latex is a styrene-butadiene latex or an acrylonitrile-butadiene latex.

15. The emulsion of claim 1 also comprising from about 1% to about 8% by weight of aluminum powder.

16. A water-based coal tar emulsion prepared from a blend comprising, based on the total weight of the emulsion,

(a) from about 20% to about 50% by weight of coal tar having an overall float test of from about 50 seconds to about 220 seconds;

(b) from about 30% to about 60% by weight of water;

(c) from about 5% to about 15% by weight of an acrylonitrile-butadiene copolymer powder mixture, said copolymer mixture comprising a linear acrylonitrile-butadiene copolymer and a crosslinked acrylonitrile-butadiene copolymer; and

(d) from about 10% to about 30% by weight of clay.

17. The emulsion of claim 16 comprising from about 7 to about 15% by weight of the acrylonitrile-butadiene copolymer powder mixture.

18. The emulsion of claim 16 wherein the copolymer mixture comprises from about 60% to about 85% by weight of the linear copolymer and from about 15% to about 40% of the crosslinked polymer.

19. The emulsion of claim 16 wherein the acrylonitrile copolymers comprise from about 20 to about 45% by weight of acrylonitrile.

20. The emulsion of claim 16 wherein the acrylonitrile copolymers comprise from about 25 to about 35% by weight of acrylonitrile.

21. The emulsion of claim 16 wherein the acrylonitrile-butadiene copolymers contain a partitioning agent.

22. The emulsion of claim 16 wherein the clay is a ball clay.

23. The emulsion of claim 16 also comprising from about 0.1 to about 2% by weight of an antioxidant.

24. The emulsion of claim 16 also comprising from about 0.1 to about 10% by weight of a plasticizer.

25. The emulsion of claim 16 also comprising from about 0.1 to about 5% of a organic hydroxy or polyhydroxy compound.

26. The emulsion of claim 16 wherein a rubber latex is added to the emulsion after the blend is prepared.

27. The emulsion of claim 25 wherein the latex is a styrene-butadiene latex or an acrylonitrile-butadiene latex.

28. The emulsion of claim 16 also comprising from about 1% to about 8% by weight of aluminum powder.

29. A method of preparing a water-based coal tar emulsion which comprises:

(a) preparing a first mixture comprising coal tar and at least one acrylonitrile-butadiene copolymer powder;

(b) heating the mixture to a temperature of at least about 160°C;

(c) preparing a second mixture comprising water and clay;

(d) heating the second mixture to a temperature of at least about 45°C; and

(e) adding the first mixture to the second mixture with agitation to form an emulsion.

30. The method of claim 29 wherein a rubber latex is added to the emulsion formed in (e).

31. The method of claim 29 wherein an antioxidant is included in the first mixture.

32. The method of claim 29 wherein a plasticizer is included in the first mixture or added to the emulsion formed in (e).

33. The method of claim 29 wherein an organic hydroxy or polyhydroxy compound is added to the emulsion formed in (e).

34. A method of preparing a water-based coal tar emulsion which comprises:

(a) preparing a first mixture comprising from about 35 to about 60 parts by weight of coal tar and from about 6.5 to about 18 parts by weight of at least one acrylonitrile-butadiene copolymer powder;

(b) heating the mixture to a temperature of at least about 160°C;

(c) preparing a second mixture comprising from about 45 to about 60 parts by weight of water and from about 15 to about 19 parts by weight of ball clay;

(d) heating the second mixture to a temperature of at least about 45°C; and

(e) adding the first mixture to the second mixture with agitation to form an emulsion.

35. The method of claim 34 wherein from about 5 to about 10 parts by weight of a rubber latex are added to the emulsion formed in (e).

36. The method of claim 34 wherein from about 0.2 to about 1.5 parts by weight of an antioxidant and about 4 to about 10 parts by weight of a plasticizer are included in the first mixture.

37. The emulsion of claim 34 wherein from about 3 to about 5 parts by weight of an organic hydroxy or polyhydroxy compound is added to the emulsion formed in (e).

38. The method of claim 34 wherein the acrylonitrile-butadiene copolymer powder in the first mixture comprises a mixture of a linear acrylonitrile-butadiene copolymer and a crosslinked acrylonitrile-butadiene copolymer.

39. The method of claim 34 wherein the first mixture is prepared by mixing the coal tar with a portion of the at least one acrylonitrile-butadiene copolymer, said mixture is heated to a temperature of at least about 160°C, and additional acrylonitrile-butadiene copolymer is added to the heated mixture while maintaining the temperature of the mixture at at least about 160°C.